

REMARKS

As a preliminary matter, Applicants submitted corrected drawings for Figs. 8 and 21-23 in response to the “Notice of Draftsperson’s Patent Drawing Review”.

Claims 1, 4-5, 16, 18, 20-21 and 27 stand rejected under 35 U.S.C. 102(b) as being anticipated by Konovalov et al. (SID, Society of Information Display, May 17-22, 1998, P.1127). Applicants amended independent claim 1, and respectfully traverse the rejection because the cited prior art does not disclose (or suggest), among other things, that the liquid crystal layer includes a first region in which the liquid crystal molecules of the liquid crystal layer undergo transition to the tilted state upon application of a first voltage across the electrodes and a second region in which the liquid crystal molecules undergo transition to the tilted state upon application of a second voltage larger than the first voltage in magnitude across the electrodes by setting the width of the insulating patterns to be larger than the width of the gap between the insulating patterns.

Konovalov does not disclose setting the width of the insulating patterns to be larger than the width of the gap between the insulating patterns. Furthermore, based on the photographs of Konovalov, Applicants do not believe that the device of Konovalov teaches a setting of the width of the insulating patterns, as taught by the present invention. Accordingly, Konovalov does not disclose a liquid crystal layer undergoing transition to a tilted state upon application of a first voltage across the electrodes, and a second region in which the liquid crystal molecules undergo transition to the tilted state upon application of a

second voltage larger than the first voltage based upon setting the width of the insulating patterns.

Claim 1 is amended to further clarify that the liquid crystal display device has a liquid crystal layer having a negative dielectric anisotropy, a pair of polarizers disposed at respective outer sides of the substrates, insulating patterns controlling the liquid crystal molecules in a tilted state in which a voltage is applied across the electrodes, and that the liquid crystal layer includes a first region in which the liquid crystal molecules of the liquid crystal layer undergo transition to the tilted state upon application of a first voltage across the electrodes and a second region in which the liquid crystal molecules undergo transition to the tilted state upon application of a second voltage larger than the first voltage in magnitude across the electrodes.

As set forth in amended claim 1, the present invention provides a multi-domain vertically aligned liquid crystal panel in which there are provided first and second regions in the liquid crystal layer in which the voltage causing transition of the liquid crystal molecules to the tilted state is different between the first and second regions (See FIGS. 10A – 10E and page 12, lines 4-36 of Applicant's specification). The present invention sets the width of the insulating patterns to be larger than the width of the gap between the insulating patterns. Since the cited prior art reference does not disclose this feature, withdrawal of the §102 rejection of claims 1, 4-5, 16, 18, 20-21 and 27 is respectfully requested.

Claims 3, 6-15, 19 and 22-26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Konovalov et al. in view of Hisatake et al. (U.S. Patent No. 5,434,690).

Applicants respectfully traverse the rejection because there is no motivation to combine the references.


Hisatake merely discloses an LCD panel of a scattering type. This type of LCD panel is different from the LCD panels of the Konovalov and present invention. More specifically, the LCD panels of Konovalov and the present invention use polarizers. Claim 1 is amended to recite this feature, and clarify this structural difference. Hisatake does not teach using polarizers at both outer sides of the glass substrates, as now recited in amended claim 1. Accordingly, Applicants believe that one skilled in the art would not be motivated to combine the teaching of Hisatake with Konovalov, as suggested by the Examiner.

Applicants further amended claim 7 into independent form and to recite the liquid crystal display device as using a horizontal alignment film. Applicants also recite the feature of polarizers at respective outer sides of the substrates. Applicants believe that claim 7 is allowable for the reasons above and because Konovalov merely teaches a vertically aligned liquid crystal display device. Accordingly, Applicants respectfully request that the §103 rejections of claims 3, 6-15, 19 and 22-26 also be withdrawn.

For all of the foregoing reasons, Applicants submit that this Application is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite the prosecution.

Respectfully submitted,

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